6469

1940 AUG - 6 - M 15

6469

Form 504
Rev. April 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } *Sheet No.* H-6469

State Massachusetts

LOCALITY

Nantucket Sound

Cotuit Bay

1939

CHIEF OF PARTY

F. L. Gallen

U. S. GOVERNMENT PRINTING OFFICE 102231

CT

Form 537
Ed. Dec. 1930

REG. NO.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 1002

REGISTER NO. H-6469

State Massachusetts

General locality Nantucket Sound

Locality Cotuit Bay

Scale 1:10,000 Date of survey July, 1939

Vessel Launch MIKAWE

Chief of Party F. L. Gallen

Surveyed by Charles A. Schanck

Protracted by George E. Varnadoe

Soundings penciled by George E. Varnadoe

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by E B Lundgaard

Verified by E B Lundgaard

Instructions dated April 1, July 1, 1939 & instructions of 19 GILBERT.

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet H-6469

INSTRUCTIONS - Proj. HT-217, dated April 1, 1939, July 1, 1939 and instructions of 1939 addressed to the Commanding Officer of the M.V. GILBERT.

LIMITS - This sheet covered the inshore section of Nantucket Sound, along the south shore of Cape Cod, from a junction with sheet 6470 (1937) at Lat. 70° 22', westward to Long. 70° 27' to a junction with sheet 6468 (1939). The offshore limits of the work was approximately along the parallel 41° 34' from the high water line eastward to Long. 70° 23', then north to Lat. 41° 36', then east to long. 70° 22', then north to the high water line. The outer limits of this sheet formed a junction with work executed by the M. V. GILBERT. In addition to the outer limits defined above the work on this sheet included a development of Wreck Shoal, Lat. 41° 32.4' to 41° 33.0', Long. 70° 25' to 70° 24'. Inshore the survey included the inland waters in Poponesset Bay, Cotuit Bay, Great Bay and West Bay.

destroyed by fire

SURVEY METHODS - The hydrography performed on this sheet was all by sextant fix and hand lead soundings. The majority of the signals used for control were located by aerial photographic survey. A few triangulation stations were available. The remainder were located by sextant cuts or a combination of sextant cuts and sextometer distances. Three different small boats were used in executing the hydrography on this sheet. One 16 foot skiff, one 25 foot skiff and a 30 foot launch, No. 75, were used. The skiffs were propelled by outboard motors.

DISCREPANCIES - No Known discrepancies exist on this sheet.

DANGERS - The dangers on this sheet are approximately the same as indicated on Chart No. 1209. The outstanding danger is Wreck Shoal in Lat. 41° 32.7', which extends from Long. 70° 24' to 70° 26'. On this shoal a least depth of 5 feet was found at Lat. 41° 32.70', Long. 70° 25.33'.

In Lat. 41° 35.27', Long. 70° 24.34', a rock about 8 ft. long and 4 ft. wide at the top with a least depth of 4 feet of water over it was found. This is the rock charted and known locally as "Lone Rock". Buoys are maintained by the U. S. Coast Guard at this rock.

In Lat. 41° 34.15', between Long. 70° 23' and 70° 25' there is very irregular bottom with numerous spots of about 2 fathoms least depth.

Generally speaking all area inside the 2 fathom curve is irregular with numerous bars and shoals extending for a considerable distance offshore.

The remains of the wreck at Lat. 41° 36.15', Long. 40° 23.87' is almost covered with sand, extending only about 6 inches above the surrounding sand.

CHANNELS - There are two channels worthy of note in the area covered by this survey, the channel into Cotuit Bay and the channel into West Bay. Both channels are kept buoyed and dredged by local boat clubs. At the time this survey was made there was a controlling depth of 6 feet into Cotuit Bay. The same depth was maintained as far as the jetties at West Bay but about 200 meters north of the jetties a *4½ foot shoal was found in the middle of the channel. According to local reports shoals form quickly at this point due to strong currents and frequent dredging is necessary to maintain a channel. Buoys are maintained along the channel from Cotuit Bay into Great Bay. There is no definite channel into Poponesset Bay.

41° 36.50' λ 70° 24.08'

* This sdg is on a small sand ridge, - note in Rec'y pos 109 u.

COMPARISON WITH CHART AND PREVIOUS SURVEYS - In general the soundings on this sheet compare closely with those shown on chart 1209 and bromides of previous surveys. There has been some shifting of the sand on Wreck Shoal since the old surveys were made. The southwest point of the shoal as shown on the chart has washed away and the least depth found on the shoal is three feet less than obtained previously. Strong currents over this shoal are shifting the sand constantly and it is believed soundings taken on it would vary considerably from year to year. A charted 18 foot spot in Lat. 41° 35.2', Long. 70° 23.6' was searched for but not found. See Rev. Par. 5b (7).

GEOGRAPHIC NAMES - Complete data on the geographic names in the area covered by this report were obtained during the course of the field work but the records pertaining thereto were burned in the fire on the Launch MIKAWE. No attempt is made to report on the names from memory.

STATISTICS - No statistics are submitted with this sheet. Something over 500 miles of hydrography was done on this sheet. It is believed that the records for about half of this work were lost by burning. The records that were lost and therefore not plotted are as follows: 1a to 6a, inclusive; 69b to 107b, inclusive; all of c,d,e, and f days; 113h to end of h day; all of j,k,m,n, and p days. (There was no l day on this sheet); 87q to end of q day; 25w to end of w day; all of x day; 41y to 46y, inclusive and 160 to 165y inclusive; 93a' to 97a' day inclusive; all of d' day. In addition to sounding records lost, the records of relocation of all or part of the shoreline in the following areas was lost: Inlet cut through in Lat. 41° 34.65', Long. 70° 27.40', to southwest of signal In; and additional shoreline change along point in Lat. 41° 36.35', Long. 70° 25.70'.

COMPLETION OF WORK - It is recommended that the work lost on this sheet be reobserved as soon as possible in order that the signals used on this sheet can be identified without extensive signal location work. It is not believed necessary to do any additional work in Cotuit Upper Bay north of the narrows nor in West Bay east of a line through the points northwest of station Ugh and south of station Boa.

When this work is completed it is recommended that the field party be furnished with the same set of pictures that was used in locating the signals shown on this sheet as well as an ozalid of the area and this smooth sheet or a copy thereof.

T-5741(1938) In locating the signals on this sheet we found that the air photo locations of some stations were in error. These positions have been changed on this sheet to fit the cuts taken to them. It is recommended that these hydrographic positions be used for the signals indicated on the ozalids and pictures. These stations are as follows: Axe, Dum, Oat, Not, Ape, Cat and Jet.

A number of natural objects were located by sextant cut, for signals. Descriptions are listed below for those that can be recalled with certainty from memory. It is recommended that these be accepted by the party completing the work on this sheet, using the positions as shown on this sheet.

Ask - is a square stone post projecting about 3 feet above ground.
Nug - was a flag at extreme northeast tip of grass on island.
Jew - was extreme north tip of narrow point of grass.
Gas - is white chimney on small white house on bluff.
Zik - is center of green door of concrete boathouse built in bluff.
Sig - was a large hydrographic signal the anchors of which can probably be recovered.
Ark - is a flag pole on bluff, the only one in the immediate vicinity.
Bay - is the southwest corner of small pump house at foot of bluff and at water's edge with its ridge parallel to waterline.
Kuk - is believed to be the center of small shack near water's edge but this should be verified.
Mil - is an old fashioned windmill tower along road to Oyster Harbor.
Duo - is a flag pole on bluff (There are tow close together on this bluff. A cut from Bar would identify the correct one.)
Buf - is the southwest corner of a buff colored cottage.
Big - was two banners on a pine tree that might be in place yet.
Glo - is the entrance light on the east side of the jetties.
Pal - is a high flag pole on top of the bluff.
Jug - is a green watertank with a white vertical stripe on its offshore side.
Toy - is a fairly low flag pole in yard on bluff.
Men, She and Sud are the offshore gables of small bath or pump houses near the water's edge. Single cuts from the end of the jetty or from the pier at station Mid would probably identify them.
Ost - is the large elevated watertank in Osterville

An 80 foot tower was built at station Hie, which may still be in place.

TIDAL DATA

The soundings on this sheet were reduced from 2 tide gages as follows: Cotuit Highlands, in Lat. 41 36.50, Long. 70 26.15 and Cotuit Upper Bay in Lat. 41 38.06, Long. 70 24.78. According to the Division of Tides and Currents there is no difference in the time or height at these two gages.

Approved and forwarded,

F. L. Gallen

F. L. Gallen
H. & G. Engineer
Chief of Party

Submitted by,

Charles A. Schanck

Charles A. Schanck
Jr. H. & G. Engr.

Smooth Sheet No. H-6469 was plotted under the immediate supervision of the Chief of Party. The sheet and records have been inspected and are approved.

F. L. Gallen

F. L. Gallen
H. & G. Engr.
Chief of Party

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6469

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	.....
Number of positions checked	48
Number of positions revised	2
Number of soundings recorded	.....
Number of soundings revised	50
Number of soundings erroneously spaced	52
Number of signals erroneously plotted or transferred	1

Date: 12/26/40

Verification by [signature] Time: 72 hrs

Review by Harold W. Murray Time: 39 hrs.

2629

Smooth Sheet H-6469 (Field No. 1002)

Prepared in Washington office January 25, 1940.

Projection lines, shoreline, triangulation stations and ~~hydro-~~ Air photo graphic stations west of longitude 70°23' and north of latitude 41°33' were printed from air photographic survey T-5741. (1938)

Projection lines south of latitude 41°33' and east of longitude 70°23' were plotted by H. D. Reed and inked by R. E. Elkins.

Shoreline, triangulation stations and ~~hydro~~ air photo graphic stations east of longitude 70°23' were transferred in projector from printed smooth sheet H-6470 (1932) (field No. 1003), by J. P. Dunich and checked by R. E. Elkins.

Triangulation station, Madden's W.T. 1934 and Hinkle's W.T. 1934 were checked with geographic positions.

Please make this memorandum a part of the descriptive report.

GEOGRAPHIC NAMES

Survey No. H6469

Name on Survey	On Chart No. A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Cotuit Bay										1
Nantucket Sound										2
West Bay										3
Great Bay										4
Popenesset Bay										5
Popenesset Beach										6
Cotui River										7
Osterville Grand I.										8
Seapuit River										9
Dead Neck										10
Cotui Anchorage										11
Eel River										12
Cotuit Highlands										13
Little Island										14
Lone Rock										15
Wreck Shoal										16
										17
										18
		L Heck		2/17/41						19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H H6469

~~No. T~~

received Aug. 8, 1940
registered Sept. 16, 1940
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22	✓	[illegible]	Page 2 – Completion of work.
24			
25	✓	[illegible]	Pages 1 & 2
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed

✓ JBSR

2 ~~3~~ ~~He~~ 20 HR
80 ~~mo~~

POST-OFFICE ADDRESS: Centerville, Md.

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

1940 AUG 6 AM 7

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Aug. 5, 1940

To: The Director
U. S. Coast and Geodetic Survey
Washington, D. C.

From: Commanding Officer
U. S. Coast and Geodetic Survey
Launches MITCHELL & OGDEN

Subject: Smooth Sheet Proj. HT-217

Under separate cover there has been forwarded smooth sheets Nos. H-6468 (1939) and H-6469 (1939), field Nos. 1001 and 1002. There is also enclosed a tracing of the area covered under the instructions for this project. The cross-hatching indicates the areas for which records were lost as the result of the fire on board the Launch MIKAWE on October 27, 1939. It will be necessary to resurvey these areas. Please send tracing to 22 [initials]

Although part of the records for H-6468 (1939) were salvaged, volume No. 1 containing the information regarding the location and names of the signals, was destroyed, together with both boat sheets. It was impossible therefore to plot any of the work done on H-6468 (1939).

The recovered records for H-6469 (1939) were badly burned and the charred edges trimmed off. It is thought that possibly they can be bound in the office and were submitted in single sheets, separated by volumes.

F. L. Gallen

F. L. Gallen
Lieut.C.& G.S.
Commanding

LQC
JHCR

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 17, 1940

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H.R. Edmonston

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 6469

Locality Cotuit, South side Cape Cod, ~~Narragansett Bay~~ Nantucket Sound, Mass.

Chief of Party: F. L.Gallen in 1939
Plane of reference is mean low water reading
1.8 ft. on tide staff at Cotuit Highlands
6.4 ft. below B. M. 1

Height of mean high water above plane of reference is 2.6 feet.

Condition of records satisfactory except as noted below:

Acting Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154337

HYDROGRAPHIC SURVEY NO. H6469

Smooth Sheet One

Boat Sheet -----

Records; Sounding 15 Vols., Wire Drag ___ Vols., Bomb ___ Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) None

Statistics ----

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) -----

Special Chart for Lighthouse Service June 14, 1940
(Circular Nov.30, 1933)

Hydrography: Total Days _____; Last Date _____

Remarks Sounding volumes 4-5-6-7-8-12 and 15 were lost by burning aboard the Launch Mikawe.

8776

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-6469(1939)

Verified and Inked by [signature] Date 12/26/40

1. The descriptive report was consulted and appropriate action taken.

2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.

3. All references to survey sheets mentioned in the descriptive report include the registry number and year.

4. Geographic names of hydrographic features are in slanting lettering and of topographic features in vertical lettering.

5. All items effecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.

6. All positions verified instrumentally were check marked in the sounding records.

7. All critical soundings are clear and legible.

8. The metal protractor has been checked within the last three months.

9. The protracting and plotting of all bad crossings were verified.

10. All detached positions locating critical soundings, rocks or buoys were verified.

11. The boat sheet was compared with the smooth sheet. No boat sheet

12. The spacing of soundings as recorded in the records was closely followed.

13. The bottom characteristics were shown on outstanding shoals.

14. The reduction and plotting of doubtful soundings were checked.

M-996

15. The transfer of contemporary topographic information was carefully examined.

16. All junctions were transferred.

17. The notation "JOINS H " was added for all contemporary adjoining or overlapping sheets now registered.

18. The depth curves have been drawn to include the significant depths.

19. All triangulation stations and transfer of topographic and hydrographic signals were checked by the field party.

20. Heights of rocks were checked against range of tide.

21. Rocks transferred from topographic survey have a dotted curve where shown thereon.

22. Unnecessary pencil notes have been removed.

23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.

24. The low water line and delineation of shoal areas have been properly shown (see letter of October 20, 1934).

25. Degree and minutes values and symbols have been checked.

26. Source of shoreline and signals (When not given in report).
Shoreline originates with T-5741(1938) except that shown in red which originates with this survey.

27. Depth curves were satisfactory except as follows:
At junction with those areas for which the work was destroyed by fire

28. Sounding line crossings were satisfactory except as follows: ✓

29. Junctions with contemporary surveys were satisfactory except as follows:
Holidays exist at Lat 41°34' Long 70°24'; Lat 41°34' Long 70°26.5'
↑ mentioned in Rev.

30. Condition of sounding records was satisfactory except as follows:

31. The protracting was satisfactory except as follows: ✓

32. The field plotting of soundings was satisfactory except as follows: ✓

33. Notes to reviewer:
1- investigated wreck Lat. 41°36.72' Long 70°22.35' pos. 174-175 t page 65 and 66 Vol 10. no evidence of it was found. Mentioned in Rev.
2- A 4ft shoal in the channel Lat 41°36.5' Long 70°24.1' referred to in the D.R Page 2 was probably missed when dredged see page 19 Vol 11. ✓
3- A 35ft sounding between 1C and 2C' is probably in error. Junction with H-6533 (1939) shows 22 ft at this spot. Sounding was not plotted.
4- In the vicinity of O Hap a check was made on the H.W.L. The disagreement with the air photo T-5741 (1938) was so slight and the definition of the H.W.L. so uncertain, as noted in Vol 14 page 17, that the air photo interpretation was accepted.

	Remarks	Decisions
1		416704
2		U S G B
3		416704
4		"
5		415704 U S G B
6		" U S G B
7		" U S G B
8		416704 U S G B
9		"
10		"
11		415704
12		416703
13		416704
14		"
15		415704
16		"
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DIVISION OF CHARTS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6469 (1939) FIELD NO. 1002

Massachusetts, Nantucket Sound, Cotuit Bay
Surveyed in July 1939, Scale 1:10,000
Instructions dated April and July 1, 1939 (GILBERT)

Soundings:	Control:
Hand Lead	Three-point fixes on shore signals

Chief of Party - F. L. Gallen
Surveyed by - Charles A. Schanck
Protracted by - G. E. Varnadoe
Soundings plotted by - G. E. Varnadoe
Verified and inked by - G. B. Littlepage
Reviewed by - Harold W. Murray, January 31, 1941
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The shoreline and signals originate with T-5741 of 1938. Portions of the shoreline revised in red in the vicinity of Lat. 41° 36.5 Long. 70° 26.8' are from information in the records and are subsequent to the topographic delineation. A number of hydrographic signals were also determined.

2. Sounding Line Crossings

Agreement of sounding line crossings is satisfactory.

3. Depth Curves

The usual depth curves may be satisfactorily drawn.

4. Junctions with Contemporary Surveys

a. The junction on the east with H-6470 (1939) is satisfactory.

b. The junction on the east and southeast with H-6533 (1939) is satisfactory. Differences of several feet noted in Lat. 41° 33', Long. 71° 24' are attributed partly to uneven bottom and partly to small discrepancies which are to be expected when hand lead work (present survey) overlaps fathometer work (H-6533).

c. The junction on the southwest with H-6468 (1939) will be considered when that area is resurveyed (original records destroyed by fire on MIKAWE).

5. Comparison with Prior Surveys

a. H-455a (1854) and H-527 (1855-56). Scales 1:40,000 and 1:30,000

Portions of these early surveys each cover the entire area of the present survey. The development consisting of widely spaced sounding lines is quite sparse and reveals no important information not adequately covered by later surveys. The present survey supersedes these surveys.

b. H-1880 (1888) and H-1880 (1894-95) Tracing. Scales 1:20,000

The 1894-95 work is essentially additional work on the former survey. The only development falling within the limits of the present survey is the location of LONE ROCK in Lat. 41° 35', Long. 70° 24' which was not located on the 1888 work. This rock, least depth 4 feet, agrees with the present survey information.

The 1888 work covers the entire area of the present survey. Differences in shoreline are noted in some areas. In Lat. 41° 36', Long. 70° 24'; the artificial inlet on the present survey is subsequent to the 1880 survey. The shoreline just westward has receded about 50 m. On the west, the peninsula in Lat. 41° 35', Long. 70° 27' has extended 950 m. in a northerly direction where depths as great as 6 feet formerly existed. Agreement of depths is good in some areas but material differences of 3 to 19 feet have occurred in others. Specific differences noted on the 1888 work are as follows:

(1) Several sunken wrecks lying in depths of 2 to 6 feet (two on Chart 247 only) in Lat. 41° 36.8', Long. 70° 22.3' were not verified. Since the range of tide was only 2.6 feet and the wrecks lie in such shallow depths, it seems probable that the hydrographer would have observed at least one of these wrecks if they still exist. In addition, 15 minutes of time were spent feeling around each of the two charted wrecks and no evidence of their existence could be found.

It is assumed that the wrecks have disintegrated and should be disregarded.

(2) A group of 8 to 13 foot soundings (8 charted) in Lat. 41° 32.7', Long. 70° 25.6' falls in depths of 14 to 21 feet on the present survey. This shoal has apparently shifted 100 to 400 meters northeast where depths of 5 to 12 feet are shown. Just southeast a line of 15 to 20 foot depths (15 charted) has apparently been worn down since the present survey indicates depths of 21 to 26 feet. At the eastern end of this shoal area the 18 foot curve has been extended eastward about 400 m., a least depth of 11 feet being shown where 30 feet formerly existed.

(3) The 22 foot sounding (not charted) in Lat. 41° 34.0', Long. 70° 24.0' is incorrect. The correct sounding is 27 feet which is slightly deeper than the present survey depths.

(4) The 27 and 25 foot depths in Lat. 41° 34.2', Long. 70° 25.2' (not charted) are incorrect, the correct depths are 21 and 23 feet, respectively.

(5) The 5-3/4 foot sounding (actually 5.8 feet, not charted) in Lat. 41° 34.8', Long. 70° 25.9' falls in depths of 14 feet. This 5 was obtained on line between depths of 9 and 10 feet, the other deeper depths on line agreeing with the present survey. This shoal has quite likely been worn down but since the present survey line spacing of 70 m. is not conclusive, the sounding has been carried forward as 6 feet. Considerable time was necessary to identify this sounding line (pos. 1-6 dd) in the records because no position numbers were shown on the smooth sheet.

6 ft. deleted 20 m. lines of Add'l WK 1942 failed to reveal indication of shoal RHC. 8/12/43

(6) The 11-1/2 foot sounding (not charted) in Lat. 41° 34.8', Long. 70° 25.7' is actually 12-1/2 feet and agrees with the present survey. The 21, one of two successive soundings on line obtained just westward between depths of 14 and 15 feet, is possibly one fathom too deep and should be disregarded.

(7) The 18 foot sounding (charted) in Lat. 41° 35.2', Long. 70° 23.6' falls practically on a line of 21 to 23 foot depths on the present survey. The 18 is a single sounding on line obtained between depths of 20 and 21 feet. The split line development, lines spaced about 60 m. apart, is to the north of the 18. The 18 has therefore been carried forward. 18 deleted, disproved by Add. Wk. 1942

(8) The 4-3/4 foot sounding (charted) in Lat. 41° 35.6', Long. 70° 25.2' falls in depths of 8 feet. This shoal is confirmed by another line on the old survey crossing at right angles which indicates that the shoal has a diameter of at least 100 m. It seems certain that the present survey development consisting of lines spaced 40 m. apart would reveal some indication if the shoal still exists. It seems apparent that the shoal has been worn down and should be disregarded.

(9) A 19 foot sounding (not charted) in Lat. 41°32.7', Long. 70° 24.4' falls close to 26 foot depths on the present survey. The 19 is a single sounding on line but since the other depths of 21 feet obtained on the same line just southward have apparently deepened about 5 feet or else shifted in position, the 19 is not being carried forward. (See par. 5c below)

The 26 foot sounding originating with the above sounding line (pos. 11-12 ff) and plotted just south of the 19 is 55 m. too far north with respect to the time interval.

The present survey with the additions indicated supersedes these surveys.

c. H-2600 (1902), Scale 1:20,000

A fringe of soundings from this closely developed survey falls just within the present survey limits along the south side of the shoal in Lat. 41° 33', Long. 70° 25' and the soundings are in fair agreement.

A 19 foot sounding (not charted) in Lat. 41° 32.7', Long. 70° 24.4' falls close to a 27-foot depth on the present survey and has been carried forward.

19 ft. deleted disproved by Add. Wk. 1942. Item 58 of Add'l Wk. review 8/12/43 RHC

This 19 is just 50 m. east of the 19 noted on H-1880 (1888), (see Par. 5b (9), above). It indicates that a shoal has persisted here for some time and is not entirely disproved by the present survey because the next sounding on line obtained just southward is 26 feet which agrees closely with the 27 on the present survey.

The present survey with this addition supersedes this survey.

6. Comparison with Charts 247 (New Print dated July 11, 1940)
1209 (" " " " 2, 1940)

a. Hydrography

Hydrography shown on the chart originates with surveys previously discussed and a number of Army Engineers' surveys which, in general, cover the several dredged channels indicated by broken parallel lines on the chart. Because of the large difference in scales, the Engineers' work being on scales of 1: 1,000 or 1:2,000 an adequate comparison cannot be made. Several of these surveys are contemporary or subsequent to the present survey and should therefore either supplement or supersede the present work respectively. Special mention is made of the following:

(1) The dredged channels indicated by broken parallel lines originate with various Engineers' surveys.

(2) In Lat. 41° 35.7', Long. 70° 25.7'; Bp. 34790 of 1940 is subsequent to the present survey but agrees closely. The charted controlling depth of 6-1/2 feet as of 1929 is in agreement but the date should be changed to at least 1938 or later.

(3) Bp. 34788 of August 1940 which is subsequent to the present survey and covers the small gap in Lat. 41° 37.2', Long. 70° 25.9' indicates that depths of 6 feet can be carried northward almost to the shoreline.

b. Aids to Navigation

The only floating aid to navigation shown on the present survey (records of other locations lost in fire) is the bell buoy in Lat. 41° 35', Long. 70° 25' which agrees closely with the charted position and satisfactorily marks the features intended.

7. Condition of Survey

a. The sounding records were neat and legible and conform to the requirements of the Hydrographic Manual.

b. The protracting and plotting of soundings were accurate.

c. The Descriptive Report was clear and satisfactorily covers all matters of importance.

8. Compliance with Instructions for the Project

The plan, character and extent of the survey comply with the Instructions for the Project.

9. Additional Field Work Recommended

The present survey is unfortunately incomplete because 7 sounding volumes were lost in the fire on the MIKAWE. These volumes contained not only regular parallel sounding line development but also specific development of charted shoals which will have to be resurveyed. In addition to the new development in the blank areas specific examination should be made of the following:

a. The 6 foot sounding falling in depths of 14 feet carried forward from H-1880 (1888) in Lat. 41° 34.8', Long. 70° 25.9'. (See Rev. par. 5b(5)) Deleted. Item 5B Rev. Add.Wk. 1942 RHC 8/12/43

b. The 5 foot sounding (charted) falling in depths of 10 feet in Lat. 41° 35.5', Long. 70° 24.4' originating with H-1880 (1888). Disproved. Item 5B Rev. Add.Wk. 1942

c. The 18 foot sounding (charted) falling in depths of 22 feet carried forward from H-1880 (1888) in Lat. 41° 35.2', Long. 70° 23.6'. (See Rev. par. 5b(7)) Deleted Item 5B Rev. Add.Wk. 1942

d. Split lines should be run on Wreck Shoal between the 12 and 18 foot curves in the vicinity of Lat. 41° 32.7', Long. 70° 25.6'. Depths as shoal as 8 to 13 feet were formerly common here on H-1880 (1888). (See Rev. par. 5b(2)) Split lines run on Add. Wk. 1942

e. The 19 foot sounding in depths of 26 feet carried forward from H-2600 (1902) in Lat. 41° 32.7', Long. 70° 24.4'. (See Rev., par. 5b(9) and c) Deleted. Item 5B Rev. Add.Wk. 1942

f. Split lines are necessary in Lat. 41° 34', Long. 70° 24' to satisfactorily develop the 12 and 18 foot depth curves and to complete the junction with H-6533 (1939). Lines run on Add. WK 1942.

g. The positions of all floating aids to navigation should be verified since the position of only one aid is contained in the present sounding records. Pos. obtained Add. WK 1942 RHC. 8/12/43

h. A list of signals established on natural objects which are therefore of a recoverable nature is given in the Descriptive Report, page 3. Mention is also made of the fact that new 1:20,000 scale inshore charts are contemplated for the area covered by the present survey.

10. Superseded surveys

H- 455a	(1854)	in part
H- 527	(1855-56)	" "
H-1880	(1888)	" "
H-1880	(1894-95 trac.	" "
H-2600	(1902)	" "

Examined and approved:

Thos. B. Reed,
Chief, Section of Field Records

Chief, Division of Charts

Chief, Section of Hydrography

Chief, Division of
Coastal Surveys

Applied to Chart 1107 April 10, 1941 Lam

" " " 1209 July 1941 H. W.

" " " 70 Aug. " J.M.A.

" " " 259 Oct " JTW

" " " 247 Feb. 1942 G.R.

" " " 258 Mar. 1942 G.R.

Applied to cht 1209 in connection
with add'l work of 1942 (thru cht 259) Nov 26 1943 A.J.A.

Applied to Cht. 1108 July 26, 1944 K.R.

6469 Additional work.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ..... Office No. H6469

LOCALITY Additional work

State Massachusetts

General locality Nantucket Sound

Locality Poponesset, Cotuit, Great and West Bays

1942

CHIEF OF PARTY

John Bowie, jr. William F. Deane

LIBRARY & ARCHIVES

DATE .....

B-1870-1 (1)

6469 Additional work.

Form 537
Ed. Dec. 1930

REG. NO. H6469

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 6469

REGISTER NO. H6469 Additional work

State Massachusetts

General locality Nantucket Sound

Locality

Scale 1 : 10,000 Date of survey Aug. - Sept., 1942

Vessel MV GILBERT - Launch FARIS

Chief of Party John Bowie, Jr. - William F. Deane

Surveyed by J. Bowie, Jr., Wm. F. Deane, H. F. Garber

Protracted by R.J. Christman

Soundings penciled by R.J. Christman

Soundings in ~~fathoms~~ feet

Plane of reference MLW

Subdivision of wire dragged areas by

Inked by A. R. STIRNI

Verified by A. R. STIRNI

Supplemental Instructions dated March 9, 1942, 19

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

Supplementary Descriptive Report

to

Accompany Sheet 6469

Nantucket Sound, Mass.

H6469

Additional work

Motor Vessel GILBERT — John Bowie, Jr., Chief of Party

Launch FARIS — William F. Deane, Chief of Party

August - September, 1942

AUTHORITY:

The additional work on this sheet was done in accordance with Supplemental Instructions, Project HT - 217, dated March 9, 1942.

PURPOSE OF WORK:

The purpose of this survey was to resurvey areas for which records were lost when the Launch MIKAWE burned.

CONTROL:

Signals established along the beach and artificial objects when available, were located by topographic methods for control of the hydrography. A number of stations on the eastern half of the sheet, located by the MIKAWE survey, were recovered and used. T-6886 (1942) T-6887 (1942)

SURVEY METHODS:

Standard survey practices were used throughout.

The inshore hydrography was accomplished by a portable depth recorder installed on Launch No. 75. Bar checks were made three times a day. The agreements were perfect and the portable depth recorder performed in an excellent manner for the entire survey.

Salinity observations were not made as the depths were less than 5 fathoms in 99% of the area. The bar checks proved that corrections due to salinity and temperature would be negligible and consequently unnecessary.

SURVEY METHODS: (Cont'd)

During field operations, soundings were recorded every 30 seconds to the nearest even foot. Later, usually the next day, the fathograms were scaled and corrections made to the record book, the depths being scaled to ½ foot. Tide reducers were also entered to the ½ foot and the depths inked on the boat sheet are the reduced soundings.

The southwestern part of the sheet was in the firing zone of an anti-aircraft machine gun range. Only during periods of inactive firing could the launch party operate in this area. Constant contact was maintained with former Coast and Geodetic Survey officers stationed at Camp Edwards to keep posted on the firing schedule.

A hydrographic party from the Launch FARIS made the survey in the inland bays and shallow water areas in the vicinity of Cotuit. Soundings were made from a catamaran. A supplemental report of this survey is attached.

JUNCTIONS:

This sheet joins sheet H - 6533 (1939) on the East and South; and sheet H - 6468 (1942) on the Southwest. H-6470 (1939) on northeast

Junctions with previous surveys were satisfactory.

GENERAL DISCUSSION:

The eastern end of Succonnesset shoal was developed on this sheet and numerous splits run as directed. Shoal depths of 4,5, 6, and 7 feet were located. These are marked on the boat sheet and will be self-evident upon inspection.

At Lat. 41° 33.8', Long. 70° 27.8', a small shoal exists with a least depth of 1½ feet. This shoal, however, is unimportant as it is in a general area of 1 fathom in depth and is about ¼-mile from the beach.

At Lat. 41° 34.0', Long. 70° 26.45', a small spur shoal with a least depth of 8 feet was developed.

In the general vicinity of Lat. 41° 34.2', Long. 70° 24.0', a very irregular shoal was developed. The shoal is about 1 mile in length and ¼ mile in width. Depths as shoal as 8, 9, and 10 feet were found in various locations as noted on the boat sheet.

GENERAL DISCUSSION: (Cont'd)

Near the entrance to Cotuit Bay, a small portion of the existing MIKAWE hydrography was resurveyed. This was done because the depths appeared to have changed 1 to 2 feet since the previous survey. This change probably was due to the 1938 hurricane. It is recommended that the 1942 hydrography supplement the former hydrography where duplicated.

present survey substantially the same as 1939 work. Present sdgs supersede prior work.

At Lat. 41° 35.27', Long. 70° 24.35', a check was made on a four ft. rock noted on the boat sheet from the MIKAWE records. A least depth of 4½ feet was obtained by hand lead with the top of the rock clearly visible. The position of the rock plots 20 meters West of the original position. This difference probably is due to distortion of the boat sheet used since the paper is not of a very good quality.

Present survey position of rock is a transfer of plotting on an aluminum sheet

SMOOTH PLOTTING:

As per instructions, all data is forwarded to the Washington office to be plotted on the original smooth sheet.

Respectfully submitted,

John Bowie, Jr.

John Bowie, Jr.
Commanding Officer,
U.S.C. & G.S. MV GILBERT

H6469

STATISTICS

to

Accompany Sheet 6469 Add WK 4942)

Nantucket Sound, Mass.

1942

DATE 1942	DAY LETTER	STAT. MILES SOUNDING LINES	NO. of POSITIONS
Aug. 26	a	14.3	77
27	b	24.5	138
28	c	39.1	173
31	d	29.0	132
Sep. 1	e	28.1	138
2	f	29.0	131
3	g	33.2	168
4	h	33.4	166
7	j	26.0	134
8	k	25.0	142
10	l	19.2	111
14	m	36.2	177
15	n	5.6	33
16	p	8.7	59
26	q	17.1	123
30	r	--	2
	Totals	368.2	1910

Area - Square Statute miles . . . 9.6

No. of Soundings. . . Continuous profile

List of Signals

to

H6469

Accompany Sheet 6469

Nantucket Sound, Mass.

1942

STATION	DESCRIPTION
ARK	Recovered station. Plotted from Air Photo. Sheet No. T5741 (1938) Verified by ~~topography~~ sextant cuts (1939) & T-6886 c (1942)
ART	Topographic Sheet A-2, 1942 (T-6887 b)
BAY	Recovered station. Plotted from Air Photo. Sheet No. T-5741 (T-1938 Verified by ~~topography~~ sextant cuts (1939) & T-6886 c (1942)
BUS	Topographic sheet A-2, 1942 (T-6887 b)
~~BYR~~	~~Byrnes W.T., 1934~~ T-6886 c (1942)
CHIM	Topographic sheet B-1, 1942 (Easterly chimney) T-6886 c (1942)
~~COT~~	~~Cotuitport Church Spire, 1887-1934~~ T-6886
DEL	Topographic Sheet A-2, 1942 T-6887 b (1942)
HAM	Located by sextant cuts on "h" day, Sept. 4, 1942 Vol VI
HAP	Topographic Sheet A-2, 1942 T-6887 b (1942)
HAR	Oyster Harbors Tank, 1934
HIE	Recovered station. Plotted from Air-photo. Sheet No. T-5741 Verified by topography. T-6887 b (1942)
IN	Recovered station. Plotted from Air-photo. Sheet No. T-5741 Verified by topography. T-6887 b (1942)
JUG	~~Topographic Sheet A-1, 1942~~ Sextant cuts 1939
KID	" " B-1, 1942 T-6886 c
LAT	" " B-1, 1942 T-6886 c
LITE	Recovered station. Plotted from Air-photo. Sheet No. T-5741 Verified by topography. T-6886 c (1942) & sextant cuts 1939
LOK	Topographic Sheet B-1, 1942 T-6886 c
MAC	" " B-1, 1942 T-6886 c
MAN	" " B-1, 1942 T-6886 c (1942)
MID	Recovered station. Plotted from Air-photo. Sheet No. T-5741. Verified by topography T-6886 c (1942)
MOE	Topographic Sheet A-2, 1942 T-6887 b (1942)
NAP	Recovered station. Accepted position from Boat Sheet 6469 Pos. from T-5740 (1938)
NOD	Topographic sheet B-1, 1942 T-6886 c
NUT	" " B-1, 1942 T-6886 c
PAW	" " B-1, 1942 T-6886 c
PET	" " A-2, 1942 T-6887 b
PIER	Pierides W. T., 1934
POLE	Topographic Sheet A-2, 1942 T-6887 b
RUN	" " B-1, 1942 T-6886 c
STY	" " B-1, 1942 T-6886 c
SUC	Succonnesset, 1934
TIE	Topographic Sheet, 1942, B-1 T-6886 c
VAN	" " B-1, 1942 T-6886 c
WIT	" " B-1, 1942 T-6886 c

H6469

HYDROGRAPHIC SHEET 6469-a

COTUIT BAY AND VICINITY, MASS.

Boat sheet 6469-a was made in addition to boat sheet 6469 in order that the party from the Launch FARIS could carry out the surveys of shoal water areas with a catamaran during the time that the M. V. GILBERT was undertaking fathmeter surveys in the same vicinity.

Scope: This sheet includes Poponesset, Cotuit, Great and West Bays, their tributaries and the shoreline of Nantucket Sound between Longitude 70 22'W and Longitude 70 29'W.

A varying proportion of all these areas has been surveyed by the MIKAWE, only a few small areas having been left in Cotuit and Great Bays, though nearly all of Poponesset and West Bays was surveyed originally by the FARIS' party.

Methods: The work was done by standard hydrographic survey methods. Position determination was accomplished by sextant fixes using signals established by the party from the Launch FARIS, topographic and hydrographic signals being in red and blue respectively on the boat sheet. The recovered signals transferred from boat sheet 6469 are shown in purple. shown in red or blue on smooth sheet In occasional instances the unimportance to navigation of shallow inlets made acceptable the location of positions by reference to recognizable configurations of the shoreline traced from sheet 6469. Soundings were by pole except as noted in the sounding volumes when occasional depths made necessary the use of a lead-line.

General: Poponesset Bay is shallow over most of its extent, the bottom chang-

ing from sand and shells in the southern part to mud over most of the northern part, and, with Mashpee and Santuit Rivers, is used only by shallow draft pleasure craft. Cotuit and West Bays are mostly of greater depth and used by slightly larger craft and are generally of sand and shell bottom, having relatively few areas where crab grass is of much hindrance to boats. A gradual shoaling shoreward, coupled with the amount of heavy shells, that, in shoal water, made operation of the outboard motors difficult, made necessary the cessation of sounding lines at a distance too great from shore to define the MLW line in most instances.

The results of recent dredging operations are shown by the new channel lines in Cotuit Bay. Otherwise, crossings over the previous work in Cotuit and West Bays show good agreement.

The soundings crossing, and adjacent to, previous work in Poponesset Bay show uniform increases of one foot in depth. Since no tide gage was established previously in Poponesset Bay, it is recommended that the previously established depths in this area be increased by one foot, assuming Office verification of the new reference plane used. Original tidal values retained. Area relatively unimportant.

There is likewise a similar fairly uniform discrepancy between the MIKAWE'S work in Great Bay and the present survey, adjacent depths revealing increases of from one to two feet in depth. It is thought that previous records, by which the reference planes at the gages in West Bay, whose staff was near this work at Great Bay, and Cotuit Bay can be compared, will indicate the proper time and height corrections to be applied to the recorded heights at Cotuit Highlands gage for the work in Great Bay. Amt of work done in Great Bay on present survey is very small. Values accepted as plotted.

There were no important discrepancies revealed by the cross lines in the present survey, except for a three foot difference in depths where the line between positions 52g and 53g crosses 56g, in Poponesset Bay. This discrepancy is due apparently to a slight shift eastward of the center of line 52g -

53g and can be eliminated by bending the center of the line to its probable position about 10 meters west of the straight line joining fixes 52g - 53g. Line adjusted

Dangers to Navigation: The charted wreck 470 meters SSE of West Bay entrance jetty was investigated on a calm day and was found in its charted position though almost completely covered and projecting, at greatest, about one foot above the surrounding bottom. The hull lines are visible for some fifteen feet and extend in a NE - SW direction. Least depth over it was found to be ~~2~~ 1/2 feet. Rev. 1966

Latitude: 41 36'.15

Longitude: 71 23'.87

~~"~~ day, position 35.

The rock shown 240 meters SSE of signal RUN is in the center of a rocky shoal extending about 20 meters in a N - S direction. Since this area is, at the closest, about 350 meters from the marked channel and is surrounded by depths of only ~~two~~ one and ~~three~~ two feet, it would not seem to be particularly dangerous. Rock retained - awash at M.H.W.

Channels: The channel into West Bay has a least depth of 4 feet, about 500 meters north of the entrance and within the channel buoys inside the bay, though there is a least depth of 6 feet through, and extending 300 meters north of, the jetty at the entrance. 5' on bar at entrance.

Boats of up to 6 feet draft may use the marked channel leading into Cotuit Bay, where depths of 6 feet and more obtain over most of the western portion, and on into Great Bay. 3' into Great Bay The controlling depth for this channel should be depended upon as being no more than 6 feet because of probable shifting bars at the entrance to Cotuit Bay.

The entrance to Poponesset Bay has a least depth of ~~six~~ 4 feet, though the channel is not marked at present, and may vary with changing entrance bars. About 600 meters from the entrance the channel shoals to a least depth of

three feet and may be depended upon for equal or greater depths into the bay proper and on into the entrance to Santuit River, through all of which it remains unmarked at present.

Anchorages: Fair holding ground is to be found in Cotuit Bay, especially in the deeper portion, averaging about 10 feet, to westward. The only portion of West Bay having suitable and deep enough bottom for anchoring is in the exposed central part within the confines of the marked channel.

Tides: Soundings were reduced to the MLW reference plane furnished by the Office for the staff at the Cotuit Highlands portable automatic gage No. 299 except that, in Poponesset Bay, plotted soundings on the boat sheet are reduced to a preliminary MLW of 2.21 feet on the staff at the portable automatic tide gage, No. 291, established at ~~Poponesset~~ Daniels Island.

Statistics:

Total number of Positions:	728
Total number of Soundings:	4140
Statute miles of Soundings:	72.1

Respectfully submitted,

Robert H. Randall Jr.

Robert H. Randall, Jr., Ensign,
U. S. Coast and Geodetic Survey.

Approved and forwarded,

William F. Deane

William F. Deane
Lieutenant, C&GS
Commanding FARIS

LIST OF SIGNALS ON HYDROGRAPHIC SHEET NO. 6469-a.

T-6806 (1942)

H6469

TOPOGRAPHIC SIGNALS SHEET B-1 BOAT SHEET 6469

BAY	LON	AND
CAN	MAC	ANT
CHIM	MAN	ARK
COR	MID	ASK
EAT	NOD	ASP
FAN	NUT	BUF
GON	OCK	DIZ
HAP	OLE	ELM
HEN	PAW	FIX
HIL	RIP	GIB
IN	RUN	HOW
JAR	SIG	ILK
KAP	SIP	KOK
KED	SON	LITE
KID	STA	MOW
KIN	STY	NUN
LAT	TIE	OIL
LOB	TRES	OST
LOK	VAN	QUE
LOG	WIT	ROB
		ZOO

TRIANGULATION STATION.

BYR
BYRNES WATER TANK 1934.

COT
COTUIT PORT CHURCH SPIRE. 1887 - 1934.

HAR
OYSTER HARBORS TANK 1934.

RID
PIERIDES WATER TANK 1934.

T-6887 b (1942)

TOPOGRAPHIC SIGNALS SHEET A-2. HYDROGRAPHIC SIGNAL

BEE
CAD
ELF
FOR
GAS
GIN
HIP
JOY
KIL
LIM
LIZ
MOB
NAG

BAR
Page 3, Sdg. Vol. 13

TIDAL NOTE

H6469
Additional work

to

Accompany Sheet 6469

Nantucket Sound, Mass.

Motor Vessel GILBERT John Bowie, Jr., Chief of Party

August - September, 1942

As per paragraph 9 and 10 of the supplemental instructions dated March 9, 1942, Project HT - 217, tides at Cotuit Highlands were used for the reduction of all soundings except those taken in Poponesset Bay.

A tide gage was established and maintained at Daniel's Island while the work was in progress in Poponesset Bay. The MLW on the staff was determined by a simultaneous comparison with the gage at Cotuit Highlands.

STATION	LATITUDE	LONGITUDE	MLW on STAFF
COTUIT HIGHLANDS	41° 36.4'	70° 26.2'	0.7
DANIEL'S ISLAND	41° 35.2'	70° 27.8'	2.2

H6469

Additional work

TIDAL DATA

The tide reducers for the work on all the sheet, except in Poponesset Bay, are from the recorded heights at portable automatic gage #299 at Cotuit Highlands, Lat. 41 36'.50, Long. 70 26'.14. The MLW reading on the staff at this gage is 0.7 ft.

For the work in Poponesset Bay westward of Thatch Id. portable automatic gage #291, on the bridge between Daniel's Id. and Poponesset Id., Lat. 41 35'.21 and Long. 70 27'.82 was employed. The MLW established by field computations for this staff was at the 2.2 ft. mark.

Reducers from the gage at Cotuit Highlands were used on the following dates: September 8, 10, 14, 15, 16, 17, and 28.

Reducers from the gage at ~~Poponesset~~ Daniels Id. were used on the following dates: September 24 and 25.

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. H6469

ADDITIONAL WORK 1942

Records accompanying survey:

Boat sheets .one.; sounding vols.(13)..; wire drag vols. ....;

bomb vols. .....; graphic recorder rolls .(14).;

special reports, etc. .....

.....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		1910
Number of positions checked		63
Number of positions revised		8
Number of soundings recorded		16280
Number of soundings revised (refers to depth only)		32
Number of soundings erroneously spaced		24
Number of signals erroneously plotted or transferred		—
Topographic details	Time	8
Junctions	Time	24
Verification of soundings from graphic record	Time	8

Verification by A.R. STIRNI ...Total time 152. Date July 30, 1943

Review by R.H. Carstens ... Time 39½ Date Aug. 12, 1943

	Remarks.	Decisions
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27		
M 234		

GEOGRAPHIC NAMES

Survey No.

H6469

Name on Survey	On Chart No. A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Conduit Bay										1
Great Bay										2
Nantucket Sound										3
Poponesset Bay										4
West Bay										5
										6
										7
										8
										9
See names in Descriptive Report for										10
1939 work on H-6469										11
										12
										13
										14
										15
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										27

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H H6469
~~No.~~ Additional work

received Nov. 13, 1942
registered Nov. 19, 1942
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
✓ 83	Pg 2	HH	Mr. Engebretsen
88			
90			

RETURN TO

82	R.W.Knox

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

November 25, 1942.

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: Mr. H. R. Edmonston.

Plane of reference approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET 6469 Ad.-WK

Locality Poponesset, Great, Cotuit and West Bays, Nantucket Sound, Mass.

Chief of Party: John Bowie, Jr. & Wm. F. Deane in 1942
Plane of reference is mean low water reading
0.7 ft. on tide staff at Cotuit Highlands
6.3 ft. below B. M. 1
2.2 ft. on tide staff at Daniels Island
10.4 ft. below B. M. 1

Height of mean high water above plane of reference is 2.6 feet at Cotuit Highlands; 2.3 feet at Daniels Island.

Condition of records satisfactory except as noted below:
Tide reducers on Sept. 14, Vol. 11 and Sept. 15, 16 and 17, Vol. 12 were one foot too small and corrections have been made with red pencil. Reduced soundings should be revised accordingly.
On Sept. 24 and 25, Vols. 12 and 13, tide reducers and reduced soundings apparently had been entered and then erased. The tide reducers have been entered again with red pencil.

C. F. Green

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154227

DIVISION OF CHARTS

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. H-6469 Add. Wk.

Field No. 6469

Massachusetts, Nantucket Sound, Vicinity of Cotuit Bay
Surveyed August - September 1942; Scale 1:10,000
Instructions dated January 17, 1938, and March 9, 1942

Soundings:

Hand lead
808 Fathometer
Sounding pole

Control:

Three-point fix on shore signals

Chief of Party - John Bowie, Jr.
Surveyed by - John Bowie, Jr.; W. F. Deane and H. F. Garber
Protracted by - R. J. Christman
Soundings plotted by - R. J. Christman
Verified and inked by - A. R. Stirni
Reviewed by - R. H. Carstens
Inspected by - H. R. Edmonston, August 14, 1943

1. Shoreline and Signals

The shoreline and signals originate with T-5741 (1938), T-6886 (1942), and T-6887 (1942). Several hydrographic signals located by sextant fixes are recorded in the sounding volumes of the present survey.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Satisfactory.

4. Junctions with Contemporary Surveys

A satisfactory junction was made with H-6470 (1939) on the east, H-6533 (1939) on the east and south and H-6468 (1942) on the southwest. The junction with the 1939 work of H-6469 is satisfactory. Where some change has occurred, as for example in the entrance to Cotuit Bay, the soundings of the 1939 work were superseded by soundings of the present survey.

5. Comparison with Prior Surveys

a. H-455a (1854) 1:40,000
H-527 (1855-56) 1:30,000

Depth agreement with these early surveys is generally within 4 feet. The development is quite sparse and reveals no important information not adequately covered by later surveys. The present survey should supersede these early surveys within the common area.

b. H-1880 (1888) 1:20,000
H-2600 (1902) 1:20,000

The agreement in depth is generally within 1-3 feet although in spots where marked changes have occurred, the differences are greater as, for example, in Lat. 41°32.5'; Long. 70°25.8' where former depths of 13-14 feet have washed to present depths of 19-23 feet.

A number of soundings carried forward to H-6469 (1939) are considered disproved by the additional work of 1942 and have not been retained. These soundings from H-1880 are:

(1) The 6-ft. sounding (chart 1209) falling in depths of 14 feet in Lat. 41°34.8'; Long. 70°25.9' (see item 9a of review for H-6469 (1939)

(2) The 5-ft. sounding (chart 1209) falling in depths of 9-10 feet in Lat. 41°35.5'; Long. 70°24.4' (see item 9b of review for H-6469 (1939)

(3) The 18-ft. sounding (chart 1209) falling in depths of 21-23 feet in Lat. 41°35.19'; Long. 70°23.59' (see item 9c of review for H-6469 (1939)

(4) The 11-ft. sounding (chart 1209) falling in depths of 14-15 feet in Lat. 41°34.92'; Long. 70°24.68'

The 19-ft. sounding (chart 1209) from H-2600 falling in depths of 24-27 feet in Lat. 41°32.66'; Long. 70°24.38' is considered disproved by the present survey and was not retained. The sounding is distant 150 m. from similar depths on Wreck Shoal and has probably

washed deeper. Changes in other spots on Wreck Shoal have taken place since the prior survey was accomplished as, for example, in Lat. 41°32.75'; Long. 70°24.19' where prior depths of 16-17 feet have washed to 23 feet. The present survey adequately reveals all the necessary hydrographic information and is adequate to supersede these prior surveys within the common area.

6. Comparison with Chart 1209 (Latest print date 5-8-43)

a. Hydrography

The charted hydrography within the limits of the present survey originates with the previously considered surveys and with the 1939 work of H-6469. The wreck charted in Lat. 41°36.2'; Long. 70°23.9' in about 2 feet of water is now largely covered with sand and projects only about 1 foot above the bottom.

b. Aids to Navigation

The present survey positions of floating aids to navigation are 55 to 170 meters from the charted positions. However, the aids still satisfactorily mark the features intended. The buoy in Lat. 41°36.1'; Long. 70°23 8' is not charted and is probably maintained by private interests.

c. Controlling Depths

Survey values of controlling depths are in harmony with the charted values except that the depth thatcan be carried across the bar and into West Bay is 5 feet instead of the charted 6 feet and through West Bay a depth of 3 feet can be carried rather than the charted 4 feet.

7. Condition of Survey

Satisfactory.

8. Compliance with Instructions for the Project

Satisfactory, except that no recommendations were made regarding the retention or rejection of certain critical depths investigated..

9. Additional Field Work Recommended

The present survey adequately covers the area and no additional work is required.

10. Superseded Surveys

H-455a	(1854)	in part
H-527	(1855-56)	" "
H-1880	(1888)	" "
H-2600	(1902)	" "

Examined and approved:

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Partially applied to Ch. 1209 (before review) 2/20/43 ~~GHE~~.

applied to Ch. 258 (after review) ~~Sept~~ 18, 1943 - JFW

" " " 259 " " ~~Sept~~ 28, 1943 - JFW

" " " 1209 (after review) Nov. 26 1943 HFL

Applied to Cht. 1108 July 26, 1944 K.R.